Amendments to and Listing of the Claims:

Please amend claims 1, 21 and 26, add new claims 27-28, and cancel claim 11 without prejudice to the filing of a divisional application directed to the subject matter thereof, as follows:

1. (Currently Amended) A hydrogen purifying apparatus for oxidizing and removing carbon monoxide in a reformed gas containing carbon monoxide in addition to a main component of hydrogen gas, comprising a reaction segment having a catalyst bed for oxidizing carbon monoxide, a reformed gas inlet and a reformed gas pathway for supplying said reformed gas to said reaction segment, an oxidant gas supplying segment for supplying an oxidant gas to said reformed gas pathway, a cooler for cooling an upstream side of said catalyst bed, and means for heating a downstream side of said catalyst bed,

wherein said means for heating the downstream side of said catalyst bed is ~~the reformed gas in~~ a portion of the reformed gas pathway located in proximity to said catalyst bed and separated from the catalyst bed by a wall so as to heat said downstream side of said catalyst bed by said reformed gas before passing through said cooler.

2. (Cancelled)

3. (Previously Presented) The hydrogen purifying apparatus in accordance with claim 1, wherein an upstream side portion of the catalyst bed is formed of different catalyst material than that of a downstream side portion, and the catalyst material constituting said downstream side portion exerts an activity at lower temperature than the catalyst material constituting said upstream side portion.

4. (Previously Presented) The hydrogen purifying apparatus in accordance with claim 3, wherein at least a portion of said catalyst material in said upstream and downstream sides of the catalyst bed is supported by a metallic material.

5. (Cancelled)

6. (Previously Presented) The hydrogen purifying apparatus in accordance with claim 1, further comprising a gas flow rate control valve located on the oxidant gas supplying segment for changing an amount of oxidant gas to be supplied in correspondence with a temperature of said catalyst bed.

7. (Cancelled)

8. (Previously Presented) The hydrogen purifying apparatus in accordance with claim 1, wherein said reformed gas pathway has a first direction prior to passing through said cooler, and a second direction passing through said catalyst bed, wherein the first direction and second direction are opposing.

9. (Previously Presented) The hydrogen purifying apparatus in accordance with claim 1, wherein said reaction segment is located outside the reformed gas pathway.

10. (Previously Presented) The hydrogen purifying apparatus in accordance with claim 1, wherein said reaction segment is tube-shaped and said reformed gas pathway before the passage through said cooler is formed around said reaction segment.

11-20. (Cancelled)

21. (Currently Amended) A hydrogen purifying apparatus for oxidizing and removing carbon monoxide in a reformed gas containing carbon monoxide in addition to a main component of hydrogen gas, comprising a reaction segment having a catalyst bed for oxidizing carbon monoxide, a reformed gas inlet and a reformed gas pathway for supplying said reformed

gas to said reaction segment, an oxidant gas supplying segment for supplying an oxidant gas to said reformed gas pathway, a cooler for cooling said reformed gas in said reformed gas pathway in a vicinity of an upstream side of said catalyst bed, and means for heating a downstream side of said catalyst bed,

wherein said reformed gas pathway at least partially surrounds said catalyst bed, such that said means for heating said downstream side of said catalyst bed ~~comprises at least a portion of said reformed gas in~~ is a portion of said reformed gas pathway and such that said reformed gas is cooled in said reformed gas pathway by said catalyst bed before passing through said cooler.

22. (Cancelled)

23. (Previously Presented) The hydrogen purifying apparatus in accordance with claim 21, wherein an upstream side portion of the catalyst bed is formed of different catalyst material than that of a downstream side portion, and the catalyst material constituting said downstream side portion exerts an activity at lower temperature than the catalyst material constituting said upstream side portion.

24. (Previously Presented) The hydrogen purifying apparatus in accordance with claim 23, wherein at least a portion of said catalyst material in said upstream and downstream sides of the catalyst bed is supported by a metallic material.

25. (Previously Presented) The hydrogen purifying apparatus in accordance with claim 21, further comprising a gas flow rate control valve for changing an amount of oxidant gas to be supplied in correspondence with a temperature of said catalyst bed.

26. (Currently Amended) The hydrogen purifying apparatus in accordance with claim 21, wherein said reformed gas pathway has a first direction prior to passing through

said cooler, and a second direction after passing through said catalyst bed, wherein the first direction and second direction are opposing.

27. (New) The hydrogen purifying apparatus in accordance with claim 1, wherein the portion of the reformed gas pathway heats the catalyst bed by direct heat transfer through the wall.

28. (New) The hydrogen purifying apparatus in accordance with claim 21, wherein the portion of the reformed gas pathway heats the catalyst bed by direct heat transfer through a wall.